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☐ 1: [Poly A](#)

Links

A group of adenine ribonucleotides in which the phosphate residues of each adenine ribonucleotide act as bridges in forming diester linkages between the ribose moieties.

Year introduced: 1976

☐ 2: [Poly\(A\)-Binding Proteins](#)

Links

Proteins that bind to the 3' polyadenylated region of mRNA. When complexed with RNA the proteins serve an array of functions such as stabilizing the 3' end of RNA, promoting poly(A) synthesis and stimulating mRNA translation.

Year introduced: 2003

Related
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☐ 3: [Poly\(A\)-Binding Protein I](#)

Links

A poly(A) binding protein that has a variety of functions such as mRNA stabilization and protection of RNA from nuclease activity. Although poly(A) binding protein I is considered a major cytoplasmic RNA-binding protein it is also found in the NUCLEUS and may be involved in transport of mRNP particles.

Year introduced: 2003

☐ 4: [Poly\(A\)-Binding Protein II](#)

Links

A poly(A) binding protein that is involved in promoting the extension of the poly A tails of mRNA. The protein requires a minimum of ten ADENOSINE nucleotides in order for binding to mRNA. Once bound it works in conjunction with CLEAVAGE AND POLYADENYLATION SPECIFICITY FACTOR to stimulate the rate of poly A synthesis by POLY A POLYMERASE. Once poly-A tails reach around 250 nucleotides in length poly(A) binding protein II no longer stimulates POLYADENYLATION. Mutations within a GCG repeat region in the gene for poly(A) binding protein II have been shown to cause the disease MUSCULAR DYSTROPHY, OCULOPHARYNGEAL.

Year introduced: 2003

☐ 5: [RNA, Messenger](#)

Links

RNA sequences that serve as templates for protein synthesis. Bacterial mRNAs

are generally primary transcripts in that they do not require post-transcriptional processing. Eukaryotic mRNA is synthesized in the nucleus and must be exported to the cytoplasm for translation. Most eukaryotic mRNAs have a sequence of polyadenylic acid at the 3' end, referred to as the poly(A) tail. The function of this tail is not known for certain, but it may play a role in the export of mature mRNA from the nucleus as well as in helping stabilize some mRNA molecules by retarding their degradation in the cytoplasm.

Year introduced: 1965

☐ **6: Poly A-U**

[Links](#)

A double-stranded polyribonucleotide comprising polyadenylic and polyuridylic acids.

Year introduced: 1974

☐ **7: Polynucleotide Adenylyltransferase**

[Links](#)

An enzyme that catalyzes the synthesis of polyadenylic acid from ATP. May be due to the action of RNA polymerase (EC 2.7.7.6) or polynucleotide adenylyltransferase (EC 2.7.7.19). EC 2.7.7.19.

Year introduced: 1998

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